IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Gaidjiergis et al.

Application No.: 10/039,064 | Confirmation No.: 3578

Filed: January 4, 2002 | Art Unit: 1791

For: METHODS AND APPARATUS FOR MANUFACTURING FIBER-CEMENT SOFFITS WITH AIR VENTS | Examiner: P. N. Butler

REPLY BRIEF UNDER 37 C.F.R. § 41.41

MS Appeal Brief - Patents
Commissioner for Patents
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Sir:

This Reply Brief responds to the Examiner's Answer mailed on September 9, 2009, in the above-identified application, and is in furtherance of the Notice of Appeal filed on October 28, 2009, and the Appeal Brief filed on May 29, 2009. In the Examiner's Answer, the Examiner (a) withdrew the rejection of claims 18-22, 24-30, 38, 39, 41-43 and 45-55 under 35 U.S.C. § 112, first paragraph; (b) repeated the same arguments regarding the §102 and §103 rejections that were made in the Office Action mailed April 29, 2008; and (c) responded to the arguments in Section VII of the Appeal Brief.

Appellant's arguments in the Appeal Brief fully address the errors in the rejections set forth in the Office Action dated April 29, 2008, and the Examiner's Answer. Appellants accordingly do not concede any of the positions or stipulations set forth in the Examiner's Answer by not directly responding to them in this paper. Instead, the following remarks address selected errors in Section (10) of the Examiner's Answer regarding the Examiner's new responses

to Appellant's arguments. The Appellants reserve the right to address additional errors in the Examiner's Answer.

1. The Examiner Erred in Finding that Paragraphs [0002] and [0006] of the Present Application Disclose it is "Well Known to Cure a Fiber-Cement Composition and then Perform a Cutting Process, Which Would Include Punching"

In rejecting independent claims 19, 25, 31, 38, 42 and 49, the Examiner relies on paragraphs [0002] and [0006] of the present application (the "Background Information") for the proposition that these paragraphs teach it is "well known to cure a fiber-cement composition and then perform a cutting process, which would include punching." (Examiner's Answer at p. 43, ll. 8-11; p. 46, ln. 4; p. 47, ll. 1-2; p. 48, ll. 10-12; and p. 49, ll. 8-10.) The Examiner's characterization of the Background Information is incorrect because the Background Information teaches that "cutting" cured fiber-cement materials with an abrasive disk was unpleasant and that prior experiments to produce ventilated soffit by punching cured fiber-cement panels failed.

The Background Information teaches that fiber-cement compositions are pressed, cured, and then cut into panels, shakes and planks to form finished siding products. (Paragraph [0002].) Paragraph [0003] of the present application teaches that cured fiber-cement panels are more difficult to process that wood because they are relatively brittle and abrasive. To the extent that the Background Information teaches cutting cured fiber-cement panels, this teaching is limited to the statement that "cutting fiber-cement products with circular saws (e.g., a rotating abrasive disk) produces a significant amount of dust that makes the working environment unpleasant and difficult to clean." (Paragraph [0003].) Paragraph [0005] of the present application teaches that James Hardie Building Products ("James Hardie"), a large manufacturer of fiber-cement building products, experimentally produced ventilated fiber-cement soffit boards by drilling apertures through cured fiber-cement panels, but found that it is not a viable manufacturing process for large scale production because drilling is time consuming, produces an unpleasant dust, and quickly wears the drill bits. Paragraph [0006] of the Background Information teaches that

manufacturers of fiber-cement building products "experimented" with punching individual holes through a fiber-cement panel using a sheet metal punch, but that the punching process was not feasible because the punches (a) caused delamination as they withdrew from the panel and (b) ripped out material from the backside of the panels such that the resulting ventilated soffit boards did not have sufficient structural integrity to be hung under the eaves of a structure. (Emphasis added.)

The Background Information does not teach that "cutting" fiber-cement includes "punching" holes in fiber-cement. Cutting fiber-cement with an abrasive disk as taught by the Background Information does not encompass punching holes through fiber-cement at least for the reason that the mechanisms of action differ greatly. For example, cutting with an abrasive disk grinds the dry cured fiber-cement material into a fine dust, whereas punching shears the material between two opposing forces (e.g., the force of the punch and the opposing force of the die). Lastly, paragraphs [0003] and [0006] of the present application contrast cutting and punching cured fiber-cement as opposed to equating these processes. Therefore, the Examiner erred in relying on the Background Information for the proposition that cutting cured fiber-cement panels encompasses punching holes through cured fiber-cement panels such that at the time of the invention it was well known to punch holes through cured fiber-cement panels.

In contrast to the Examiner's assertion that the Background Information of the present application teaches punching fiber-cement boards to form soffit was well known, the Background Information in fact teaches experimental punching of fiber-cement boards did not work. As noted above, these experiments failed because of delamination and excessive backside ripping. (Background Information at paragraph [0006].) In contrast to teaching that punching holes in cured fiber-cement was well known at the time of the invention, the failed experiments disclosed in the Background Information teach away from punching holes in cured fiber-cement to produce ventilated soffit. It was in spite of the teaching of the Background Information that the applicants successfully invented a large scale process for punching holes through cured fiber-

cement panels without causing delamination or undue backside ripping. The Examiner's assertion that the Background Information teaches it was well known at the time of the invention to punch holes through cured fiber-cement panels is like stating that sustained flight was well known before the Wright brothers successfully flew their plane at Kitty Hawk. The Examiner's characterization of the Background Information is accordingly incorrect, and as a result the rejections that rely on the Examiner's incorrect characterization of the Background Information should be withdrawn.

The Examiner's response in Section (10) of the Examiner's Answer regarding this issue is also incorrect. More specifically, the Examiner dismisses the fact that the Background Information teaches away from punching holes in cured fiber-cement panels on the grounds that "Appellant's indication that lack of success is related to specific clearances which are not recited in the Claim 19 being argued, and no factual evidence has been made of record correlating a critical clearance and Kober's clearance." (Examiner's Answer at p. 45, ln. 11, to p. 46, ln. 5.) First, the Examiner's position is incorrect because the teachings of the Background Information are not based on the claimed subject matter (that would be impermissible hindsight reasoning), but rather the only disclosure in the Background Information regarding punching cured fiber-cement teaches that the previous experimental punching processes caused delamination and excessive backside ripping. Second, the delamination experienced by the previous experimental punching processes was caused, in part, by withdrawing the punches along a stroke length equal to the full thickness of the panels. Claim 19 limits the stroke length to something less than the full thickness of the panels, and thus the claimed subject matter is in fact related to a problem of the previous experimental processes. Third, factual evidence has been made of record correlating a critical clearance and Kober's clearance. For example, paragraph [0006] of the present application teaches that sheet metal punches with very small clearances like the punches taught by Kober were unsuccessful, whereas paragraphs [0024]-[0031] clearly provide factual evidence that the punch/hole clearance is important in punching holes through fiber-cement panels. Claims 20-22, in fact, claim specific punch-hole clearances. Therefore, the Examiner

erred in finding that the Background Information teaches it was well known to punch holes through fiber-cement panels at the time of the invention.

2. The Examiner Erred by Failing to Accord Sufficient Weight to the Declaration of John T. Whitehead Under 37. C.F.R. §1.132 When the Teachings of Kober are Considered in Their Entirety

The Examiner also erred by failing to accord sufficient weight to the evidence provided in the Declaration of John T. Whitehead Under 37 C.F.R. § 1.132 dated January 28, 2008 (First Whitehead Declaration) when taking the teachings of Kober are viewed in their entirety. Prior art references must be considered in their entirety. MPEP §2141.03 (VI) citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983) *cert. denied*, U.S. 851 (1984). The Examiner dismissed the First Whitehead Declaration stating "that it does not contain an indication of an event, act or occurrence that has actually taken place," and that it is merely "accorded opinion evidence status." (Examiner's Answer at page 43.) The Examiner, more specifically, states "no factual evidence has been made of record showing lack of fracture and lack of plug ejection of panels at different levels of being cured or uncured." (Examiner's Answer at page 43.)

The Examiner's position is untenable in light of the teachings of Kober itself and the facts set forth in paragraphs 8-13 of the First Whitehead Declaration. For example, Kober discloses, among other things, the following facts: (a) trays 7 are required to transport and support Kober's filamentary mats 3 (Kober at 2:39-52); (b) the filamentary mats 3 are formed from a hydraulic binder and fiber that requires a pump 27 to withdraw the liquid expressed from the mat 3 during punching (Kober at 3:18-31); and (c) Kober's filamentary material of the mats 3 will "extrude" through the space between the holes 17 in the transport trays 7 and the outer surface of die tubes 18 if the spacing is too large (Kober at 2:17-26 and 2:58-64). Paragraph 8 of the First Whitehead Declaration restates these facts and observes from these facts that Kober's filamentary mats 3

have a sufficiently high moisture content that liquid is expressed during Kober's punching process. Paragraph 8 of the First Whitehead Declaration further notes that Kober's mats 3 are sufficiently limp and deformable that they require the transport trays 7 for support during processing, and that Kober's mats 3 are subject to extruding through the relatively small gaps spaced laterally apart from the punches. Mr. Whitehead concludes that Kober's mats 3, therefore, are an uncured material that has significantly different requirements than the cured fiber-cement panels processed by the methods of the present claims. Mr. Whitehead's statements are not opinion, but rather they are facts of what Kober inherently teaches.

Another example of where the Examiner failed to accord the First Whitehead Declaration sufficient evidentiary weight is the Examiner's statement that "no factual evidence has been made of record showing lack of fracture and lack of plug ejection at different levels of being cured or uncured." (Examiner's Answer at p. 43, ll. 15-19.) First, the present application discloses that the claimed processes cause cured fiber-cement panels to fracture in a manner that ejects the plugs. (Paragraph [0027].) Second, Kober's teachings set forth above teach that Kober's filamentary mats 3 will "extrude" through gaps that are (a) smaller than the passages 11 of Kober's dies 18 and (b) spaced laterally apart from Kober's punches 10. If Kober teaches that the filamentary material "extrudes" through gaps that are smaller than the die holes and spaced laterally apart from the punches, it follows that Kober inherently teaches his pins 10 will extrude the material of his mats 3 through the passages 11 instead of propagating a crack that "fractures" the material. Paragraphs 8-11 of the First Whitehead Declaration summarize these teachings of Kober and show why Kober's pins 10 must pass completely through Kober's mats 3 to form holes through the filamentary material via extrusion. The Examiner accordingly erred by failing to give sufficient weight to at least these paragraphs of the First Whitehead Declaration.

3. The Examiner's Erred in Stipulating that Kober Indirectly Teaches the Concept of Driving the Punches Through Only a Portion of the Fiber-Cement Panel Without Passing the Punches Completely Through the Panel

In rejecting independent claims 19, 25, 31, 38 and 42, the Examiner erred in stipulating that Kober indirectly teaches driving the punches through only a portion of the fiber-cement panels without passing the punches completely through the panels. More specifically, the Examiner asserts that Figure 3 of Kober "teaches that the punch means 8 are slightly shorter, but definitely no longer, in length than the trimming blades 25," and the Examiner relies on this incorrect characterization of Figure 3 of Kober for the proposition that Kober teaches his "upper platen 9 stops when trimming blades 25 engage against lead anvil strips 26 and before punch means 8 have fully passed through the fiber plate 3 at least until such depressions occur [in the lead anvil strips]." (Examiner's Answer at p. 44, ll. 3-13.)

The Examiner erred by incorrectly attributing precise, specific lengths to Kober's trimming blade 25 and punch pins 10 based on patent drawings without any specific disclosure of these dimensions. "[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issues." *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000); MPEP § 2125. Kober does not describe anything with respect to the specific lengths of his trimming blade 25 and punch pins 10. In fact, the only specific dimension regarding the punch pins 10 described in Kober is that the diameter of the punch pins 10 is equal or substantially equal to the diameter of the bores 11 in his dies 18. Figure 3 of Kober is merely a line drawing with lines that vary in thickness. The Examiner accordingly erred by reading specific dimensions into Figure 3 of Kober.

The Examiner further erred in his reading of Figure 3 of Kober because the punch pins 10 are not definitely shorter than the trimming blade 25. Figure 3 of Kober reproduced below

shows that the actual relative lengths of Kober's trimming blade 25 and punch pins 10 cannot be determined from this figure.

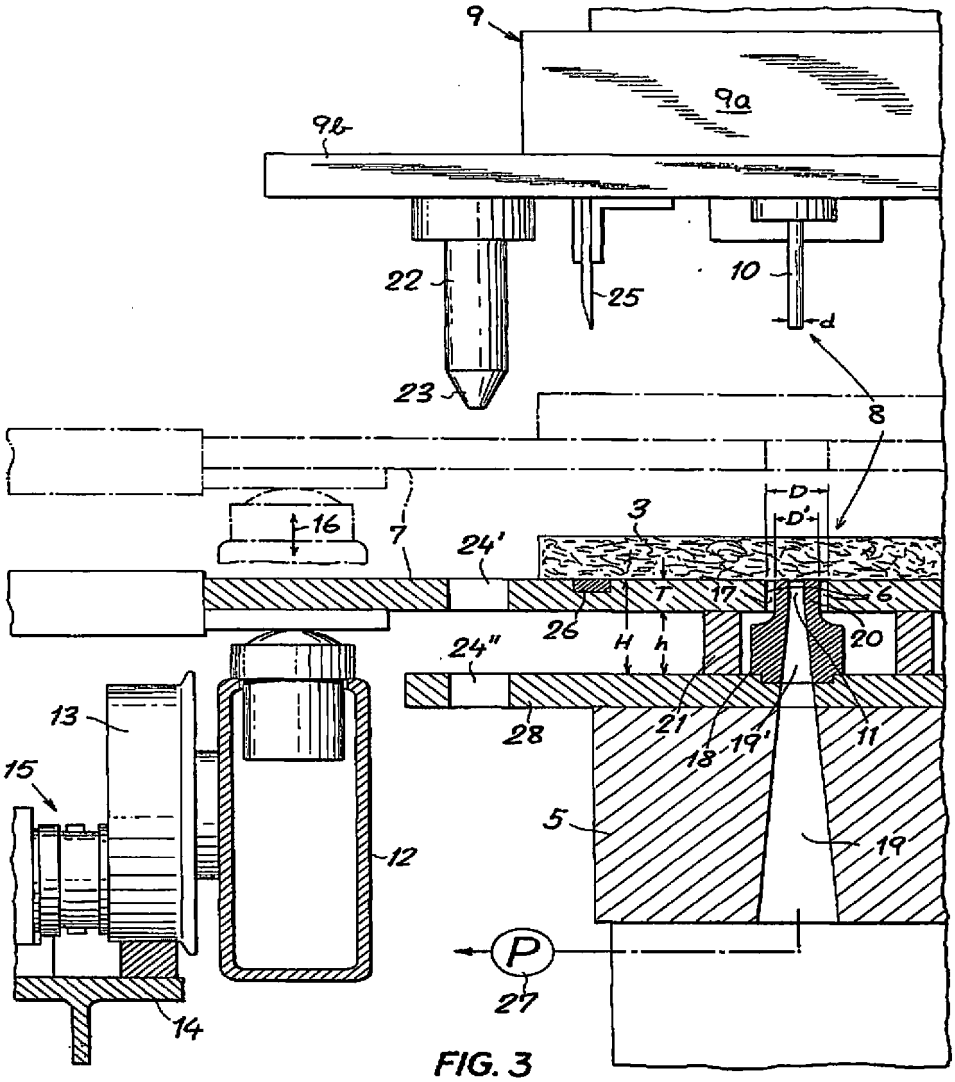

FIG. 3

For example, the vertical line defining the right side of the trimming blade 25 thickens towards the tip and the low angle of the inclined line defining the left side of the blade creates a length at the tip of the blade that is longer than either thickness of the left or right lines. If a horizontal

line is placed at the elevation where the length of the tip of the blade 25 is equal to the line thickness of the right vertical line of the blade, the punch pins 10 and the trimming blades 25 have at least the same length. The Examiner accordingly erred in finding that Kober's pins 10 are shorter than Kober's trimming blade 25, and therefore the Examiner also erred in finding that Kober inherently teaches his pins 10 pass through only a portion of his extrudable mat 3 without passing completely through the mat.

The Examiner further erred in finding that Kober's trimming blade 25 is longer than his punch pins 10 because the Examiner completely disregards Kober's teaching that his punch pins 10 will in fact extrude the filamentary material through the dies 18 for the reasons explained above. Kober, moreover, expressly teaches that his punches pass "through" the sheet of filamentary material and "into" the apertures of the dies. (Kober at claim 1, 4:58-62.) Kober's pins 10 must inherently pass completely through the thickness of the mat 3 or else the filamentary material would be only partially extruded into the apertures 11 of the tubes 18 without being fully ejected from the mats 3. (First Whitehead Declaration at paragraph 10.) The Examiner accordingly erred in finding that Kober's trimming blade 25 is longer than his punch pins 10. Therefore, the Examiner also erred in finding that Kober inherently teaches his punch means 8 pass through only a portion of his mats 3 without passing completely through the mats.

4. The Examiner Erred in Finding that Kober Recognizes Punch Penetration Depth is a Result-Effective Variable

The Examiner further erred by finding that Kober recognizes punch penetration depth is a result-effective variable. The Examiner bases this finding on the grounds that "Kober further teaches to optimize punch depth in col. 4, lines 24-35 by requiring the platen 9 and punch 10 to descend until perforations are formed [in the mat 3] and plugs are driven [out of the passages 11]." (Examiner's Answer at p. 44, line 14, to p. 45, line 10.) The portion of Kober cited by the Examiner merely teaches that the punch pins 10 punch perforations in the mat 3 and drive the plugs out of the passages 11 of respective dies 18 – nothing more. For the reasons explained

above, Kober inherently teaches that his pins 10 must pass completely through his mats 3 to fully extrude the uncured filamentary material into the bores 11 of his dies 18. The punch depth in Kober is not variable because his process would not form holes in his mats with a punch stroke less than the full thickness of the mats. Kober accordingly does not recognize punch penetration depth as a result-effective variable. Thus, the Examiner erred by finding that Kober teaches punch depth is a result-effective variable.

5. The Examiner Erred by Asserting that the Background Information Moots the Concerns for Punching Holes through Kober's Uncured Mat Using the Claimed Punch/Die Clearances

With respect to the rejection of claims 20-22 and other claims that include limitations regarding a radial punch/hole clearance, the Examiner asserts that Kober recognizes the arrangement of the pins 10 and the tubes 18 is a result-effective variable such that it would have been obvious to determine the optimum arrangement of the pins 10 and tubes 18 through routine experimentation based on the desired amount of ventilation, the thickness and type of fiber plate, and other factors. (Examiner's Answer at p. 47, ll. 8-15.) The Examiner is incorrect for several reasons. First, Kober expressly teaches that the outer diameter of the pins 10 is equal or substantially equal to the inner diameter of the hole 11 of the tubes 18. (Kober at 2:1-4 and 3:32-35.) Moreover, because Kober is directed to punching holes in limp, deformable mats, one problem Kober seeks to solve is "the filamentary material [of the mat] is extruded through the holes in the transport tray making it hard to separate [the filamentary material from the transport tray after punching]." (Kober at 2:58-61.) If the filamentary material of Kober's mat is subject to be extruded through the gap between the tray and the tubes at a distance that is spaced apart from the punch, then the filamentary material is even further subject to being pulled into the passages 11 of his tubes 18 in a manner that would result in jagged or fuzzy edges unless the punches and the holes have equal or substantially equal diameters as expressly taught by Kober. Thus, the Examiner's assertion that Kober "obviously recognizes that the arrangement of the pins 10 and the tubes 18 is a result-effective variable" is incorrect.

In the Examiner's Answer, the Examiner summarily dismisses these teachings of Kober on the grounds that "since Applicant's Admission teaches punching cured boards, concerns for limitations of uncured boards are moot." The Examiner's statement is not only incorrect, but it also misses the point. The Examiner's statement is incorrect because, as explained above, paragraphs [0002] and [0006] of the present application do not teach that punching cured fiber-cement boards was well known at the time of the invention, but rather these paragraphs teach that punching fiber-cement panels to produce ventilated soffit was unsuccessful. The Examiner's statement also misses the point because concerns for the limitations of punching Kober's uncured mats 3 using anything other than the equal or substantially equal punch/hole diameters taught by Kober is highly relevant to the Examiner's assertion that Kober recognizes the punch/hole clearance to be a result-effective variable. The Examiner's assertion that Kober recognizes the punch/hole clearance is a result-effective variable is accordingly incorrect.

6. The Examiner Erred in Finding that Quinell Teaches the Desirability of Using Ventilated Soffit Boards With a Plurality of Ventilation Slots and that Kober Would be Modified to Create the Board Used as Soffit in Quinell

The Examiner erred in finding that Quinnell teaches a fascia system comprising cement-based asbestos boards for use as soffit that include a plurality of ventilation slots formed in each soffit board. (Examiner's Answer at p. 46, ll. 6-18.) The Examiner's reading of column 1, lines 15-28, of Quinnell is incorrect because this portion of Quinnell discusses non-vented soffit. This is apparent from contrasting this portion of Quinnell with the portion at column 2, lines 15-28, cited by the Examiner that discusses ventilated soffit. The Examiner's statement that Quinnell teaches using cement boards that include a plurality of ventilation slots as soffit based on column 2, lines 15-28, of Quinnell is also incorrect. Although this portion of Quinnell states "[o]ne proposal involves the use ventilation slots in the soffit board," it is not clear that this proposal is for an asbestos-cement soffit board. Quinnell, moreover, goes on to teach "[t]he production of such slots adds to expense, which for a low-cost system using cement based soffits can be an important factor." Quinnell further teaches that "forming apertures in the soffits...is again

unsatisfactory in the context of a low cost system." (Quinnell at 2: 34-38.) Quinnell's invention, in fact, avoids forming ventilation slots in the asbestos-cement boards by instead using a pre-formed thermoplastic ventilator panel with slots in combination with solid asbestos-cement panels without slots. (Quinnell at 2:39-58; 3:23-46; and 4:7-46.) With respect to methodology, Quinnell according teaches that is undesirable to form ventilation slots in the asbestos-cement boards, and instead the ventilation slots should be formed in a separate molded panel. If the asbestos-cement boards used in Quinnell's system included ventilation slots, there would be no need for Quinnell's inventive thermoplastic ventilation panel. Therefore, the Examiner erred because Quinnell teaches away from using asbestos-cement panels with ventilation slots formed through the asbestos-cement material.

The Examiner also erred by concluding that Kober would be modified to create the board used as soffit in Quinnell on the basis that customization and minimization of additional components, such as the molded insert of Quinnell, would promote the use of Kober's punch to create the soffit board used in Quinnell. First, since Quinnell's invention is directed to his molded inert so that slots and apertures are not formed through the asbestos-cement boards, Kober would not be modified to create holes through the asbestos-cement boards used in Quinnell's soffit system. Second, "minimization" (e.g., reducing the size or elimination) of the inventive aspect of Quinnell's invention cannot be a viable rationale for modifying Kober to punch holes through the asbestos-cement boards used as taught by Quinnell. Therefore, this basis for rejecting the claims is also without merit.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 319578007US1 from which the undersigned is authorized to draw.

Dated: 9 Nov. 2009

Respectfully submitted,

By _____

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